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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/532,900	04/27/2005	Koji Kikushima	6700-85315	2254

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CHICAGO, IL 60603-3406

EXAMINER	
HODGE, DEXTER	

ART UNIT	PAPER NUMBER
4177	

MAIL DATE	DELIVERY MODE
12/27/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/532,900	KIKUSHIMA, KOJI	
	Examiner	Art Unit	
	Dexter Hodge	4177	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,6-8,11-13 and 16* is/are rejected.

7)☒ Claim(s) *4,5,9,10,14 and 15* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04/27/2005* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *04/27/2005, 02/06/2007*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings are objected to because they lack descriptive legends as required by 37 CFR 1.84(o). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Examiner suggest, for example, in Fig 1: labeling box 81 to be "FM batch conversion", labeling box 82 to be "light source", etc.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 6, 11, and their subsequent dependent claims are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claim 1, 6, and 11 it is unclear how the "rectangular-wave forming means" actually forms the wave. As the claims stand now the "rectangular-wave forming means" is not actually forming a rectangular wave but simply combining incoming rectangular signals. Therefore examiner suggests amending the claim to read "rectangular-wave combining means" wherever the occurrence of "rectangular-wave forming means" is present.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being unpatentable by Daniel J. Fitzmartin., (US 5245461) (hereinafter referred to as Fitzmartin).

Regarding **claim 1,** Fitzmartin teaches an optical signal receiver that receives and frequency-demodulates an optical signal, comprising: an optical branch circuit for splitting an input optical signal into two signals **(Fig.8, 298; Col.6 line 23)**; an optical delay line for delaying one of the two branched optical signals **(Fig.8, 300; Col.6 line 23)**; a first photoelectric conversion circuit for converting the optical signal from the optical delay line into a first electrical signal **(Fig.8, 308, 309, 312; Col.6 lines 28-30)**; a second photoelectric conversion circuit for converting the other optical signal of the two branched optical signals into a second electrical signal **(Fig.8, 310, 311, 314; Col.6 lines 24-32)**; rectangular-wave forming means that outputs a single rectangular-waveform signal using the first electrical signal from the first photoelectric conversion circuit and the second electrical signal from the second photoelectric conversion circuit as inputs **(Fig.8, 313, 315, 316; Col.6 lines 32-33)**; and a smoothing circuit for smoothing the rectangular-wave signal from the rectangular-wave forming means **(Fig.8, 318, 320; Col.6 lines 38-39)**.

Regarding **claim 2,** Fitzmartin teaches the optical signal receiver according to claim 1, wherein the rectangular-wave forming means has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51; threshold=v_{o1})**; a second

discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal **(Fig.8, 315; Col.6 lines 32-33; Col.5 lines 43-51)**; and an AND circuit that performs an AND operation on the first binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal **(Fig.8, 316; Col.6 line 33)**.

Regarding **claim 3,** Fitzmartin teaches the optical signal receiver according to claim 1, wherein the rectangular-wave forming means has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51; threshold=v_{o1})**; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51)**; an OR circuit that performs an OR operation on the first binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal **(Fig.8, 316; Col.6 line 33)**.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard Epworth *et al.* (USPGPUB 2004/0218932) (hereafter referred to as Epworth), in view of Fitzmartin.

Regarding **claim 6,** Epworth teaches optical signal receiving equipment that receives an optical signal, comprising: (1) an optical branch device that splits an input optical signal into N signals (N is an integer of two or more); and (2) N optical signal receivers; and (3) an inphase combiner that combines the N smoothed rectangular-wave signals outputted from the N optical signal receivers, respectively **(Fig.3(a))**.

Epworth does not explicitly teach wherein each of N optical receivers has: an optical branch circuit that splits the optical signal from the optical branch device into two signals; an optical delay line for delaying one of the two branched optical signals; a first photoelectric conversion circuit for converting the optical signal from the optical delay line into a first electrical signal; a second photoelectric conversion circuit for converting the other optical signal of the two branched optical signals into a second electrical signal; rectangular-wave forming means for forming a single rectangular-wave signal using the first electrical signal from the first photoelectric conversion circuit and the second electrical signal from the second photoelectric conversion circuit as inputs; and a smoothing circuit for smoothing the rectangular-wave signal from the rectangular-wave forming means; and the output of each optical receiver, respectively, being in phase with one another.

Fitzmartin teaches wherein each of N optical signal receivers has: an optical branch circuit for splitting an input optical signal into two signals **(Fig.8, 298; Col.6 line 23)**; an optical delay line for delaying one of the two branched optical signals **(Fig.8, 300; Col.6 line 23)**; a first photoelectric conversion circuit for converting the optical signal from the optical delay line into a first electrical signal **(Fig.8, 308, 309, 312; Col.6 lines 28-30)**; a second photoelectric conversion circuit for converting the other optical signal of the two branched optical signals into a second electrical signal **(Fig.8, 310, 311, 314; Col.6 lines 24-32)**; rectangular-wave forming means that outputs a single rectangular-waveform signal using the first electrical signal from the first photoelectric conversion circuit and the second electrical signal from the second photoelectric conversion circuit as inputs **(Fig.8, 313, 315, 316; Col.6 lines 32-33)**; and a smoothing circuit for smoothing the rectangular-wave signal from the rectangular-wave forming means **(Fig.8, 318, 320; Col.6 lines 38-39)**.

It would have thus been obvious for one of ordinary skill in the art to combine the optical receiver of Fitzmartin into the branch device that splits and inphase combines the N signals from the N optical signal receivers, respectively of Epworth to achieve the claimed invention of the Frequency demodulating branch device that splits and inphase combines the N signals from the N optical signal receivers, and the output of each optical receiver, respectively, being in phase with one another.

Fitzmartin provides that the motivation for the combination would be to extract AM (multichannel amplitude modulated) signals by performing FM demodulation on an incoming FM signal **(Fitzmartin, Col.2 lines 11-20)**.

Regarding **claim 7,** Epworth teaches optical signal receiving equipment according to claim 6.

Epworth does not explicitly teach wherein the rectangular-wave forming means of each optical signal receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal; and an AND circuit that performs an AND operation on the first binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal.

Fitzmartin teaches wherein the rectangular-wave forming means of each optical receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51)**; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal **(Fig.8, 315; Col.6 lines 32-33; Col.5 lines 43-51)**; and an AND circuit that performs an AND operation on the first binary signal from the first discrimination circuit and the second binary signal from

the second discrimination circuit and outputs the single rectangular-wave signal **(Fig.8, 316; Col.6 line 33)**.

It would have thus been obvious for one of ordinary skill in the art to combine the optical receiver of Fitzmartin into the branch device that splits and inphase combines the N signals from the N optical signal receivers, respectively of Epworth to achieve the claimed invention of the Frequency demodulating branch device that splits and inphase combines the N signals from the N optical signal receivers, and the output of each optical receiver, respectively, being in phase with one another.

Fitzmartin provides that the motivation for the combination would be to extract AM (multichannel amplitude modulated) signals by performing FM demodulation on an incoming FM signal **(Fitzmartin, Col.2 lines 11-20)**.

Regarding **claim 8,** Epworth teaches optical signal receiving equipment according to claim 6.

Epworth does not explicitly teach wherein the rectangular-wave forming means of each optical signal receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal; and an OR circuit that performs an OR operation on the first

binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal.

Fitzmartin teaches wherein the rectangular-wave forming means of each optical receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51)**; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51)**; an OR circuit that performs an OR operation on the first binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal **(Fig.8, 316; Col.6 line 33)**.

It would have thus been obvious for one of ordinary skill in the art to combine the optical receiver of Fitzmartin into the branch device that splits and inphase combines the N signals from the N optical signal receivers, respectively of Epworth to achieve the claimed invention of the Frequency demodulating branch device that splits and inphase combines the N signals from the N optical signal receivers, and the output of each optical receiver, respectively, being in phase with one another.

Fitzmartin provides that the motivation for the combination would be to extract AM (multichannel amplitude modulated) signals by performing FM demodulation on an incoming FM signal **(Fitzmartin, Col.2 lines 11-20)**.

8. Claims 11-13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard Kikushima *et al.* (US 5896216) (hereafter referred to as Kikushima '216), in view of Fitzmartin

Regarding **claim 11,** Kikushima '216 teaches an optical signal transmission system using an FM batch conversion method, comprising: (1)an optical signal transmitter equipped with an FM batch conversion circuit; and (2) an optical signal receiver **(Fig.1A, 1B, 1C; Col.5 lines 30-38; Col.8 lines 37-41).**

Kikushima '216 fails to explicitly teach an optical branch circuit. However '216 does teach an electrical branch circuit **(Fig.1C, 32-1, 32-2, 32-3, 32-4)**.

Fitzmartin teaches an optical signal receiver having: an optical branch circuit for splitting an input optical signal into two signals **(Fig.8, 298; Col.6 line 23)**; an optical delay line for delaying one of the two branched optical signals **(Fig.8, 300; Col.6 line 23)**; a first photoelectric conversion circuit for converting the optical signal from the optical delay line into a first electrical signal **(Fig.8, 308, 309, 312; Col.6 lines 28-30)**; a second photoelectric conversion circuit for converting the other optical signal of the two branched optical signals into a second electrical signal **(Fig.8, 310, 311, 314; Col.6 lines 24-32)**; rectangular-wave forming means for outputing a single rectangular-wave signal using the first electrical signal from the first photoelectric conversion circuit and the second electrical signal from the second photoelectric conversion circuit as inputs and outputs a singular rectangular wave signal **(Fig.8, 313, 315, 316; Col.6 lines 32-**

33); and a smoothing circuit for smoothing the rectangular-wave signal from the rectangular-wave forming means **(Fig.8, 318, 320; Col.6 lines 38-39)**.

It would have thus been obvious for one of ordinary skill in the art to combine the optical receiver of Fitzmartin into the FM Batch transmission system of Kikushima '216 to achieve the claimed invention of the optical signal transmission system using an FM batch conversion method. Fitzmartin provides that the motivation for the combination would be to extract AM (multichannel amplitude modulated) signals at the receiver by performing FM demodulation on an incoming FM signal that is produced by the FM transmitter in the system **(Fitzmartin, Col.2 lines 11-20; Col.2 lines 28-30)**.

Furthermore it would have been obvious to make a design choice as to what point in functionally equivalent circuits the optical to electrical conversion would be made because the optical components were functionally equivalent and readily available at the time that the invention was made.

Regarding **claim 12,** Kikushima '216 in view of Fitzmartin teaches all the limitations of the optical signal transmission system according to claim 11.

Kikushima '216 does not explicitly teach wherein the rectangular-wave forming means of each optical signal receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and

outputs a second binary signal; and an AND circuit that performs an AND operation on the first binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal.

Fitzmartin teaches wherein the rectangular-wave forming means of each optical receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51)**; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal **(Fig.8, 315; Col.6 lines 32-33; Col.5 lines 43-51)**; and an AND circuit that performs an AND operation on the first binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal **(Fig.8, 316; Col.6 line 33)**.

It would have thus been obvious for one of ordinary skill in the art to combine the optical receiver of Fitzmartin into the FM Batch transmission system of Kikushima '216 to achieve the claimed invention of the optical signal transmission system using an FM batch conversion method.

Fitzmartin provides that the motivation for the combination would be to extract AM (multichannel amplitude modulated) signals at the receiver by performing FM demodulation on an incoming FM signal that is produced by the FM transmitter in the system **(Fitzmartin, Col.2 lines 11-20; Col.2 lines 28-30)**.

Regarding **claim 13,** Kikushima '216 in view of Fitzmartin teaches all the limitations of the optical signal transmission system according to claim 11.

Kikushima '216 does not explicitly teach wherein the rectangular-wave forming means of each optical signal receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal; and an OR circuit that performs an OR operation on the first binary signal from the first discrimination circuit and the second binary signal from the second discrimination circuit and outputs the single rectangular-wave signal.

Fitzmartin teaches wherein the rectangular-wave forming means of each optical receiver has: a first discrimination circuit that discriminates the level of the first electrical signal from the first photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a first binary signal **(Fig.8, 313; Col.6 lines 32-33; Col.5 lines 43-51)**; a second discrimination circuit that discriminates the level of the second electrical signal from the second photoelectric conversion circuit by comparing its magnitude with a threshold and outputs a second binary signal **(Fig.8, 315; Col.6 lines 32-33; Col.5 lines 43-51)**; and an OR circuit that performs an OR operation on the first binary signal from the first discrimination circuit and the second binary signal from the

second discrimination circuit and outputs the single rectangular-wave signal **(Fig.8, 316; Col.6 line 33)**.

It would have thus been obvious for one of ordinary skill in the art to combine the optical receiver of Fitzmartin into the FM Batch transmission system of Kikushima '216 to achieve the claimed invention of the optical signal transmission system using an FM batch conversion method.

Fitzmartin provides that the motivation for the combination would be to extract AM (multichannel amplitude modulated) signals at the receiver by performing FM demodulation on an incoming FM signal that is produced by the FM transmitter in the system **(Fitzmartin, Col.2 lines 11-20; Col.2 lines 28-30)**.

Regarding **claim 16,** Kikushima '216 in light of Fitzmartin teach all the limitations of any of claims 11-13. Kikushima '216 further teaches the optical signal transmission system, wherein the optical signal transmitter further comprises a predistortion circuit that adds beforehand a distortion inverse to a distortion that the FM batch conversion circuit generates **(Fig.14A, Fig.14B; Col.12 lines 31-42)**.

Allowable Subject Matter

9. Claims 4-5, 9-10, and 14-15 are objected to as being dependent upon rejected base claims, but would appear to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 4-5, 9-10, and 14-15 appear to be allowable because:

Fitzmartin (US Patent 5,245,461) "Analog Optical FM Receiver", is an example of a next closest prior art with all the major limitations of the inventive matter of the allowable claims except for: the output of a ternary signal; and a high (or low) level discriminator that discriminates the level of the ternary signal from the adder circuit.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

H.C. Ressler (US Patent 2,881,312), "Synchronous Detector Circuit".

Kikushima, K. *et.al.* (Koji Kikushima *et.al.*, "Super-wide-band optical FM modulation scheme and its application to multichannel AM video transmission systems", IEEE Photonics Technology Letters, Vol. 8, No. 6, June 1996, 839-841)

Kikushima, K. *et.al.* (Koji Kikushima *et.al.*, "A Super Wideband Optical FM Modulation Scheme for Video Transmission Systems", IEEE J. on Selected Areas in Communications, Vol. 14, No. 6, Aug 1996, 1066-1075)

11. Any response to this Office Action should be **faxed** to (571) 273-8300 or **mailed to**:

Commissioner for Patents,
P.O. Box 1450
Alexandria VA 22313-1450

Hand-delivered responses should be brought to
Customer Service Window
Randolph Building
401 Dulany Street

Alexandria, VA 22314

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Hodge whose telephone number is 571-270-1656. The examiner can normally be reached on Mon-Thurs 8AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Benny Tieu can be reached on 571-272-1656. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dexter Hodge
Patent Examiner AU4177
November 21, 2007

/Benny Q Tieu/
Supervisory Patent Examiner, Art Unit 4177